

Amendments to the Claims

Claim 1 (Currently amended): Seed of hybrid maize variety designated 39K40, representative seed of said variety having been deposited under ATCC Accession number [[_____]] PTA-5464.

Claim 2 (Previously presented): A maize plant, or a part thereof, produced by growing the seed of claim 1.

Claim 3 (Original): Pollen of the plant of claim 2.

Claim 4 (Original): An ovule of the plant of claim 2.

Claims 5-61 (Canceled)

Claim 62 (Previously presented): A tissue culture of regenerable cells produced from the plant of claim 2.

Claim 63 (Previously presented): Protoplasts produced from the tissue culture of claim 62.

Claim 64 (Previously presented): The tissue culture of claim 62, wherein cells of the tissue culture are from a tissue selected from the group consisting of leaf, pollen, embryo, root, root tip, anther, silk, flower, kernel, ear, cob, husk and stalk.

Claim 65 (Currently amended): A maize plant regenerated from the tissue culture of claim 62, said plant having all the morphological and physiological characteristics of hybrid maize plant 39K40, representative seed of said plant having been deposited under ATCC Accession No. [[_____]] PTA-5464.

Claim 66 (Previously presented): A method for producing an F1 hybrid maize seed, comprising crossing the plant of claim 2 with a different maize plant and harvesting the resultant F1 hybrid maize seed.

Claim 67 (Currently amended): A method of producing a male sterile hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with a nucleic acid molecule that confers male sterility and crossing said inbred maize parent plants to produce said male sterile hybrid maize plant.

Claim 68 (Previously presented): A male sterile maize hybrid plant produced by the method of claim 67.

Claim 69 (Currently amended): A method of producing an herbicide resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA 5505 and PTA-5517 respectively, with a transgene that confers herbicide resistance to generate an herbicide resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said herbicide resistant hybrid maize plant.

Claim 70 (Previously presented): An herbicide resistant hybrid maize plant produced by the method of claim 69.

Claim 71 (Previously presented): The herbicide resistant hybrid maize plant of claim 70, wherein the transgene confers resistance to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinotricin, triazine and benzonitrile.

Claim 72 (Currently amended): A method of producing an insect resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and

GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with a transgene that confers insect resistance to generate an insect resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said insect resistant hybrid maize plant.

Claim 73 (Previously presented): An insect resistant maize plant produced by the method of claim 72.

Claim 74 (Previously presented): The insect resistant maize plant of claim 73, wherein the transgene encodes a *Bacillus thuringiensis* endotoxin.

Claim 75 (Currently amended): A method of producing a disease resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with a transgene that confers disease resistance to generate a disease resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said disease resistant hybrid maize plant.

Claim 76 (Previously presented): A disease resistant hybrid maize plant produced by the method of claim 75.

Claim 77 (Currently amended): A method of producing a hybrid maize plant with decreased phytate content comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with a transgene encoding phytase to generate an inbred maize parent plant with decreased phytate content and crossing said inbred maize parent plants to produce said hybrid maize plant that confers decreased phytate content.

Claim 78 (Previously presented): A hybrid maize plant with decreased phytate content produced by the method of claim 77.

Claim 79 (Currently amended): A method of producing a hybrid maize plant with modified fatty acid metabolism or modified carbohydrate metabolism comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with a transgene encoding a protein selected from the group consisting of stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme to generate an inbred maize parent plant with modified fatty acid metabolism or modified carbohydrate metabolism and crossing said inbred maize parent plants to produce said hybrid maize plant that confers modified fatty acid metabolism or modified carbohydrate metabolism.

Claim 80 (Previously presented): A hybrid maize plant produced by the method of claim 79.

Claim 81 (Previously presented): The hybrid maize plant of claim 80 wherein the transgene confers a trait selected from the group consisting of waxy starch and increased amylose starch.

Claim 82 (Currently amended): A maize plant, or part thereof, having all the physiological and morphological characteristics of the hybrid maize plant 39K40, representative seed of said plant having been deposited under ATCC Accession No. [[_____]] PTA-5464.

Claim 83 (Currently amended): A method of introducing a desired trait into a hybrid maize line variety 39K40 comprising:

(a) crossing at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited under ATCC Accession Nos. as [[_____ and _____]] PTA-5505 and PTA-5517 respectively, with another maize line that comprises a desired trait, to produce F1 progeny plants, wherein the desired trait is selected from the group consisting of male sterility, herbicide resistance, insect resistance, disease resistance and waxy starch;

(b) selecting said F1 progeny plants that have the desired trait to produce selected F1 progeny plants;

- (c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;
- (d) selecting for backcross progeny plants that have the desired trait and morphological and physiological characteristics of said inbred maize parent plant;
- (e) repeating steps (c) and (d) three or more times in succession to produce selected fourth or higher backcross progeny plants;
- (f) crossing said fourth or higher backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize ~~line variety~~ 39K40 with the desired trait and all of the morphological and physiological characteristics of hybrid maize ~~line variety~~ 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 84 (Currently amended): A plant produced by the method of claim 83, wherein the plant has the desired trait and all of the physiological and morphological characteristics of hybrid maize ~~line variety~~ 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 85 (Previously presented): The plant of claim 84 wherein the desired trait is herbicide resistance and the resistance is conferred to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

Claim 86 (Previously presented): The plant of claim 84 wherein the desired trait is insect resistance and the insect resistance is conferred by a transgene encoding a *Bacillus thuringiensis* endotoxin.

Claim 87 (Previously presented): The plant of claim 84 wherein the desired trait is male sterility and the trait is conferred by a cytoplasmic nucleic acid molecule that confers male sterility.

Claim 88 (Currently amended): A method of modifying fatty acid metabolism, phytic acid metabolism or carbohydrate metabolism in a hybrid maize ~~line~~ variety 39K40 comprising:

- (a) crossing at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited under ATCC Accession Nos. as [] and [] PTA-5505 and PTA-5517 respectively, with another maize line that ~~comprise~~ comprises a nucleic acid molecule encoding an enzyme selected from the group consisting of phytase, stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme;
- (b) selecting said F1 progeny plants that have said nucleic acid molecule to produce selected F1 progeny plants;
- (c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;
- (d) selecting for backcross progeny plants that have said nucleic acid molecule and morphological and physiological characteristics of said inbred maize parent plant;
- (e) repeating steps (c) and (d) three or more times in succession to produce selected fourth or higher backcross progeny plants;
- (f) crossing said fourth and higher backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize ~~line~~ variety 39K40 that comprises said nucleic acid molecule and has all of the morphological and physiological characteristics of hybrid maize ~~line~~ variety 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 89 (Currently amended): A plant produced by the method of claim 88, wherein the plant comprises the nucleic acid molecule and has all of the physiological and morphological characteristics of hybrid maize ~~line~~ variety 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 90 (Previously presented): A method for producing a maize seed, comprising crossing the plant of claim 2 with itself or a different maize plant and harvesting the resultant maize seed.